

CLAIMS

What is claimed is:

1. A method for calibrating a voltage controlled oscillator (VCO) comprising:
applying a plurality of known voltages to the input of a VCO;
monitoring, for each of the voltages, an output count from the VCO over a set interval;
and
storing the output counts for each voltage.
2. The method of claim 1 further comprising:
providing a serial resistance ladder having a plurality of equal resistors, wherein the known voltages are available from between each of the resistors.
3. The method of claim 2 wherein the serial resistance ladder and the VCO are constructed on the same integrated circuit.
4. The method of claim 1 further comprising:
interleaving a VCO calibration cycle in which known input voltages are substituted for measurements of unknown input voltages.
5. The method of claim 1 further comprising:
repeating calibration operations for the same known input voltage at periodic intervals to compensate for variations in operating conditions.
6. The method of claim 1 further comprising:
applying an unknown voltage to the VCO input;
monitoring an unknown output count from the VCO over a set interval; and
comparing the unknown output count to a table of stored output counts.

7. The method of claim 6 wherein the unknown voltage is measured across a sense resistor with a known resistance, and further comprising:

determining the value of the unknown voltage by relating it to a known voltage that has an equivalent output count; and

calculating a current through the sense resistor using the known resistance and a value determined for the unknown voltage.

8. A system for calibrating a voltage controlled oscillator (VCO) comprising:
a plurality of known voltages, wherein the known voltage are connectable to the VCO;
and

a controller coupled to the output of the VCO, wherein the controller maintains a calibration table of VCO output counts for selected voltage inputs.

9. The system of claim 8 further comprising:
a resistance ladder having a plurality of voltage taps, wherein the voltage taps provide the known voltages.

10. The system of claim 9 wherein the VCO, the resistance ladder and the controller are constructed on the same integrated circuit.

11. The system of claim 8 further comprising:
a plurality of VCOs; and
wherein the controller maintains a separate calibration table for each of the VCOs.

12. A computer program product comprising a computer usable medium having computer readable program code embedded therein, the computer readable program code comprising:

code for selecting a voltage to be applied to inputs of a plurality of voltage controlled oscillators (VCOs);

code for monitoring output counts from each of the plurality of VCOs over a set period of time, while the selected voltage is applied to the VCOs' inputs; and

code for storing, for each of the plurality of VCOs, a table of output counts associated with the selected voltage.

13. The computer program product of claim 12 wherein the voltage is selected from one of a plurality of voltage taps on a serial resistance ladder, wherein the voltage taps provide known voltages.

14. The computer program product of claim 12 further comprising:
code for interleaving a VCO calibration cycle during which with other VCO measurements.

15. A system for calibrating a voltage controlled oscillator (VCO) comprising:
means for applying a plurality of known voltages to the input of a VCO;
means for monitoring, for each of the voltages, an output count from the VCO over a set interval; and
means for storing the output counts for each voltage.

16. The system of claim 15 further comprising:
means for interleaving a VCO calibration cycle in which known input voltages are substituted for measurements of unknown input voltages.

17. The system of claim 15 further comprising:
means for repeating calibration operations for the same known input voltage at periodic intervals to compensate for variations in operating conditions.

18. The system of claim 15 further comprising:
means for applying an unknown voltage to the VCO input;
means for monitoring an unknown output count from the VCO over a set interval; and
means for comparing the unknown output count to a table of stored output counts.

19. The system of claim 18 wherein the unknown voltage is measured across a sense resistor with a known resistance, and further comprising:
- means for determining the value of the unknown voltage by relating it to a known voltage that has an equivalent output count; and
 - means for calculating a current through the sense resistor using the known resistance and a value determined for the unknown voltage.